

Notice of Allowability

Application No.

10/686,922

Examiner

Laura E. Edwards

Applicant(s)

HAAS ET AL.

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to the amendment filed as of 8/3/04.
2. ☒ The allowed claim(s) is/are 5, 11, 12, and 14-25 which have been renumbered as claims 1-15 respectively.
3. ☒ The drawings filed on 16 October 2003 are accepted by the Examiner.
4. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) ☐ All b) ☐ Some* c) ☐ None of the:
 1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

* Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

5. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
 6. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
 - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
 - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
 - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
7. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

1. ☐ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3. ☐ Information Disclosure Statements (PTO-1449 or PTO/SB/08), Paper No./Mail Date _____
4. ☐ Examiner's Comment Regarding Requirement for Deposit of Biological Material
5. ☐ Notice of Informal Patent Application (PTO-152)
6. ☐ Interview Summary (PTO-413), Paper No./Mail Date _____
7. ☐ Examiner's Amendment/Comment
8. ☒ Examiner's Statement of Reasons for Allowance
9. ☐ Other _____


LAURA EDWARDS
PRIMARY EXAMINER

Reasons for Allowance

Claim 5 is allowable because there is no teaching or suggestion in the prior art of a robotic paint applicator located in an enclosed paint booth having a potentially combustible atmosphere, the applicator comprising the combination of booth having a potentially combustible atmosphere, said robotic paint applicator comprising a first substantially air-tight housing enclosure including a first explosion proof electric motor therein, a second substantially air-tight housing enclosure mounted on said first housing enclosure containing a second explosion proof electric motor therein, and a robot arm mounted on said second housing enclosure having a paint applicator, said first and second explosion proof electric motors each including an enclosed motor housing, a gas inlet and a gas outlet, a source of non-combustible gas located outside said enclosed paint booth, a first gas line connected to said source of non-combustible gas and separate gas lines connecting said first gas line to each of said gas inlets of said motor housings directing non-combustible gas into said motor housings through said gas inlets of said motor housings, creating a positive pressure of non-combustible gas in said motor housings, preventing entry of said potentially combustible atmosphere and said non-combustible gas received in said first and second enclosures from said gas outlets of said motor housings creating a positive pressure of non-combustible gas in said in said first and second housing enclosures, preventing entry of said potentially combustible atmosphere in said first and second enclosures, a valve controlling flow of non-combustible gas through said first gas line and a pressure sensitive control connected to said valve maintaining a predetermined pressure of non-combustible gas in said housing enclosures.

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Claims 11 and 12 are allowable because there is no teaching or suggestion in the prior art of a method of protecting a paint robot, wherein said paint robot includes a plurality of relatively movable substantially air-tight robot housing enclosures each having an explosion proof motor therein including a motor housing having a gas inlet and a gas outlet spaced from said gas inlet, said method comprising the combined steps of directing a non-combustible gas under pressure into said gas inlet of each motor housings, creating a positive pressure of non-combustible gas within said motor housings; directing said non-combustible gas from said motor housings into said robot housing enclosures creating a positive pressure of non-combustible gas within said robot housing enclosure; and controlling said positive pressure of non-combustible gas by continuously determining said pressure of non-combustible gas and operating a valve to maintain said pressure of non-combustible gas at a pressure greater than atmospheric pressure.

Claims 14-18 are allowable because there is no teaching or suggestion in the prior art of a robot for use in a potentially combustible atmosphere comprising the combination of a substantially air-tight first robot component enclosure having an explosion proof electric motor therein; a second robot component enclosure mounted on the first robot component enclosure for movement relative to said first robot component enclosure upon actuation of said explosion proof electric motor; said explosion proof electric motor including a motor housing enclosing electrical components of said electric motor including a rotor and a stator having a gas inlet communicating with said rotor and stator and a gas outlet spaced from said gas inlet; and a source of non-combustible gas under pressure connected to said gas inlet of said motor housing directing non-combustible gas under pressure into said motor housing including said rotor and

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stator, thereby purging and preventing entry of potentially combustible atmosphere into said motor housing, and said gas outlet of said motor housing directing non-combustible gas under pressure into said first substantially air-tight robot component enclosure, thereby purging and maintaining a positive pressure of non-combustible gas in said substantially air-tight first robot component enclosure and preventing entry of potential combustible atmosphere into said first robot component enclosure.

Claims 19-21 are allowable because there is no teaching or suggestion in the prior art of a robotic paint applicator for use in an enclosed paint spray booth having a substantially combustible atmosphere, the applicator comprising the combination of a first substantially air-tight robot housing enclosure having a first explosion proof electric motor therein; a second substantially air-tight robot housing enclosure mounted on said first air-tight robot housing enclosure for relative movement thereon having a second explosion proof electrical motor therein; said first and second explosion proof motors including a motor housing enclosing electrical components of said first and second explosion proof electric motors including a rotor and a stator, and said motor housings each including a gas inlet communicating with said rotor and stator and a gas outlet; a source of non-combustible gas located outside said paint spray booth connected to each of said gas inlets of said motor housings of said first and second explosion proof motors directing non-combustible gas into said gas inlets of said motor housings to said rotor and stator, purging said motor housings of combustible gas and maintaining a positive pressure of non-combustible gas within said motor housings; and said gas outlets of said motor housings directing non-combustible gas under pressure into said first and second

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substantially air-tight robot housing enclosures purging said first and second air-tight robot housing enclosures of combustible gas and maintaining a positive pressure of non-combustible gas in said first and second substantially air-tight robot housing enclosures.

Claims 22-25 are allowable because there is no teaching or suggestion in the prior art of a method of protecting a robot in a potentially combustible atmosphere, said robot including a substantially air-tight robot enclosure having an explosion proof electric motor therein and said explosion proof electric motor including a substantially air-tight motor housing enclosing electric components of said explosion proof electric motor including a rotor and a stator having a gas inlet communicating with said rotor and stator and a gas outlet, said method comprising the combined steps of directing a non-combustible gas to said gas inlet of said motor housing at a first pressure into said motor housing including said rotor and stator, and directing said non-combustible gas from said gas outlet of said motor housing into said robot enclosure, thereby purging said motor housing and said robot enclosure of combustible gas; directing said non-combustible gas to said gas inlet of said motor housing at a second pressure greater than atmospheric pressure and less than said first pressure to said gas inlet of said motor housing and directing said non-combustible gas from said gas outlet of said motor housing into said robot enclosure, thereby maintaining a positive pressure of non-combustible gas in said motor housing and said robot enclosure preventing combustible gas from entering said motor housing and said robot enclosure; and actuating said explosion proof electric motor with said rotor and stator in a non-combustible atmosphere within said motor housing.

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Any inquiry concerning this communication or earlier communications from the examiner should be directed to Laura E. Edwards whose telephone number is (571) 272-1227.

The examiner can normally be reached on Monday-Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Chris Fiorilla can be reached on (571) 272-1187. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Laura E. Edwards
Primary Examiner
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August 20, 2004